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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/427,386 10/25/99 BAUN

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EXAMINER

MM91/0815

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ART UNIT	PAPER NUMBER

2872
DATE MAILED:

08/15/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/427,386

Applicant(s)

BAUN ET AL.

Examiner

Jennifer E Winstedt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 47-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

Claims 47-54 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

Applicant's election without traverse of Invention I in Paper No. 6 is acknowledged.

Claim Objections

Claims 9, 22, 28, 35, 41, and 44 objected to because of the following informalities:

In claim 9, line 6, "a of speed" should be "of a speed";

In claim 22, line 6, "a of speed" should be "of a speed";

In claim 28, line 2, "(LED)" should be taken out;

In claim 35, line 2, "(LED)" should be taken out;

In claim 41, lines 16, 17, and 23, "the light sensor(s)" should be "the at least one light sensor"; and

In claim 44, lines 10, 11, and 17, "the light sensor(s)" should be "the at least one light sensor".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11, the phrase "a telescope" in lines 2-3 of the claim is indefinite. A telescope has already been recited above. It is uncertain whether or not the telescope of lines 2-3 is the same as the telescope already recited.

In claim 24, the phrase "a telescope" in line 3 of the claim is indefinite. A telescope has already been recited above. It is uncertain whether or not the telescope of line 3 is the same as the telescope already recited.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 14-16, 18, 19, 23, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Bigler et al. (U.S. Patent 5,912,541).

Regarding claims 14-16, 18, 19, 23, and 25, Bigler et al. discloses a controller/motor assembly comprising an electric motor coupled to move a telescope

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about one of two generally orthogonal axes (45, Figure 1; column 4, lines 9-10; column 5, lines 41-49; and column 6 lines 18-19); a control circuit coupled to drive the motor (49, Figure 1); and an encoder coupled to provide feedback from the motor to the control circuit to facilitate enhanced position control of the telescope (67, Figure 2A and column 3, lines 58-57); wherein the control circuit is configured to cooperate with the encoder to cause the motor to position the telescope as desired, so as to facilitate enhanced location and tracking of celestial objects (column 3, lines 38-41 and 57-58 and column 6, lines 18-26), wherein the motor comprises a DC motor (column 2, lines 11-12), wherein the control circuit comprises an microprocessor (50, Figure 1), wherein the encoder comprises an optical encoder (column 3, lines 54-58), wherein the control circuit is configured to control a speed at which the telescope moves to facilitate tracking of a celestial object being viewed/photographed (column 6, lines 18-26), and wherein the control circuit is configured to receive a signal representative of an angle by which the telescope is to be moved and is configured to cause the telescope to move by approximately that angle (column 6, lines 5-8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-3, 5, 6, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers (U.S. Patent 4,541,294) in view of Bigler et al.

Regarding claims 1-3, 5, 6, 10, and 12, Byers discloses a telescope system comprising a telescope (see Figure 1); a tripod supporting the telescope (18, Figure 1); a mount attaching the telescope to the tripod so as to facilitate rotation of the telescope about two generally orthogonal axes (12, 14, Figure 1); and at least one controller/motor assembly (see Figure 2). Byers does not disclose the at least one controller/motor assembly comprising an electric motor coupled to drive the telescope about one of the two generally orthogonal axes; a control circuit coupled to drive the motor; and an encoder coupled to provide feedback from the motor to the control circuit to facilitate enhanced position control of the telescope; wherein the control circuit is configured to cooperate with the encoder to cause the motor to position the telescope as desired, so as to facilitate enhanced location and tracking of celestial objects, wherein the motor comprises a DC motor, wherein the control circuit comprises a microprocessor (which is a form of microcontroller), wherein the encoder comprises an optical encoder, wherein the control circuit is configured to control a speed at which the telescope moves to facilitate tracking of a celestial object being viewed/photographed, and wherein the control circuit is configured to receive a signal representative of an angle by which the telescope is to be moved and is configured to cause the telescope to move by approximately that angle. Bigler et al. discloses a controller/motor assembly comprising an electric motor coupled to move a telescope about one of two generally orthogonal axes (45, Figure 1; column 4, lines 9-10; column 5, lines 41-49; and column 6 lines 18-

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19); a control circuit coupled to drive the motor (49, Figure 1); and an encoder coupled to provide feedback from the motor to the control circuit to facilitate enhanced position control of the telescope (67, Figure 2A and column 3, lines 58-57); wherein the control circuit is configured to cooperate with the encoder to cause the motor to position the telescope as desired, so as to facilitate enhanced location and tracking of celestial objects (column 3, lines 38-41 and 57-58 and column 6, lines 18-26), wherein the motor comprises a DC motor (column 2, lines 11-12), wherein the control circuit comprises an microprocessor (50, Figure 1), wherein the encoder comprises an optical encoder (column 3, lines 54-58), wherein the control circuit is configured to control a speed at which the telescope moves to facilitate tracking of a celestial object being viewed/photographed (column 6, lines 18-26), and wherein the control circuit is configured to receive a signal representative of an angle by which the telescope is to be moved and is configured to cause the telescope to move by approximately that angle (column 6, lines 5-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the telescope system of Byers comprise the controller/motor assembly of Bigler et al. in order to provide the telescope with improved precision of motion so a desired viewing object is easily put and kept in view (column 2, lines 5-7; Bigler et al.).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bigler et al. as applied to claims 1-3, 5, 6, 10, and 12 above, and further in view of Official Notice.

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Byers in view of Bigler et al. discloses the claimed invention except for the control circuit comprising a PIC 16C54 microcontroller. Official Notice is taken that control circuits comprising PIC 16C54 microcontrollers are well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control circuit of Byers in view of Bigler et al. comprise a PIC 16C54 microcontroller in order to cut production costs.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bigler et al. as applied to claims 1-3, 5, 6, 10, and 12 above, and further in view of Bridges et al. (U.S. Patent 5,254,919).

Regarding claims 7 and 8, Byers in view of Bigler et al. discloses the claimed invention except for the encoder comprising an encoder wheel positioned upon a shaft of the motor. Bridges et al. discloses an encoder that comprises an encoder wheel positioned upon a shaft of a motor (50, Figure 2) and an LED directing light toward the encoder wheel (78, Figure 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the encoder wheel of Byers in view of Bigler et al. comprise an encoder wheel positioned upon a shaft of the motor and an LED directing light toward the encoder wheel as Bridges et al. suggests in order to reduce production costs.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bigler et al. further in view of Bridges et al. as applied to claims 7 and 8 above, and further in view of Kibrick et al. (U.S. Patent 4,736,187) and Official Notice.

Regarding claim 9, Byers in view of Bigler et al. further in view of Bridges et al. discloses the claimed invention as described above except for the encoder comprising a pair of photodiodes receiving light from the encoder, such that the light is modulated so as to be representative of a speed of the motor. Kibrick et al. discloses an encoder comprising a pair of sensors that receive light from an encoder, such that the light is modulated so as to be representative of a speed of a motor (column 3, line 65 – column 4, line 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the encoder of Byers in view of Bigler et al. further in view of Bridges et al. comprise a pair of sensors that receive light the encoder such that the light is modulated so as to representative of a speed of the motor as Kibrick et al. suggests in order to have obtain a system with automatic detection of errors (column 3, lines 38-39; Kibrick et al.). Official Notice is taken that the use of photodiodes as sensors is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the sensors of the combination be photodiodes in order to reduce production costs.

Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bigler et al. as applied to claims 1-3, 5, 6, 10, and 12 above, and further in view of Miyashita et al. (U.S. Patent 4,473,786).

Regarding claim 11, Byers in view of Bigler et al. discloses the claimed invention except for the control circuit being configured to reduce a speed at which a telescope is being moved as the telescope nears a desired position thereof, so as to mitigate overshoot of the telescope. Miyashita et al. discloses a control circuit configured to

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reduce a speed at which an object is being moved as the object nears a desired position thereof (column 7, lines 46-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control circuit of Byers in view of Bigler et al. to be configured as Miyashita et al. suggests in order attain the desired position with minimized hunting.

Regarding claim 13, Byers in view of Bigler et al. discloses the claimed invention except for the control circuit being configured to store a present position of the telescope, receive a desired new position of the telescope, calculate a difference between the present position of the telescope and the desired new position of the telescope, and cause the telescope to move by approximately the calculated difference. Miyashita et al. discloses a control circuit that is configured to store a present position of an object, receive a desired new position of the object, calculate a difference between the present position and the desired new position, and cause the object to move by approximately the calculated difference (column 7, lines 45-49 and column 13, lines 37-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control circuit of Byers in view of Bigler et al. be configured as Miyashita et al. suggests in order to easily put a desired viewing object in the field of view of the telescope.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bigler et al. in view of Official Notice.

Bigler et al. discloses the claimed invention except for the control circuit comprising a PIC 16C54 microcontroller. Official Notice is taken that control circuits

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comprising PIC 16C54 microcontrollers are well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control circuit of Bigler et al. comprise a PIC 16C54 microcontroller in order to cut production costs.

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigler et al. in view of Bridges et al.

Regarding claims 20 and 21, Bigler et al. discloses the claimed invention except for the encoder comprising an encoder wheel positioned upon a shaft of the motor. Bridges et al. discloses an encoder that comprises an encoder wheel positioned upon a shaft of a motor (50, Figure 2) and an LED directing light toward the encoder wheel (78, Figure 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the encoder wheel of Bigler et al. comprise an encoder wheel positioned upon a shaft of the motor and an LED directing light toward the encoder wheel as Bridges et al. suggests in order to reduce production costs.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bigler et al. in view of Bridges et al. as applied to claims 20 and 21 above, and further in view of Kibrick et al. (U.S. Patent 4,736,187) and Official Notice.

Regarding claim 22, Bigler et al. in view of Bridges et al. discloses the claimed invention as described above except for the encoder comprising a pair of photodiodes receiving light from the encoder, such that the light is modulated so as to be representative of a speed of the motor. Kibrick et al. discloses an encoder comprising a pair of sensors that receive light from an encoder, such that the light is modulated so as

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to be representative of a speed of a motor (column 3, line 65 – column 4, line 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the encoder Bigler et al. in view of Bridges et al. comprise a pair of sensors that receive light the encoder such that the light is modulated so as to be representative of a speed of the motor as Kibrick et al. suggests in order to have obtain a system with automatic detection of errors (column 3, lines 38-39; Kibrick et al.). Official Notice is taken that the use of photodiodes as sensors is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the sensors of the combination be photodiodes in order to reduce production costs.

Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigler et al. in view of Miyashita et al.

Regarding claim 24, Bigler et al. discloses the claimed invention except for the control circuit being configured to reduce a speed at which a telescope is being moved as the telescope nears a desired position thereof, so as to mitigate overshoot of the telescope. Miyashita et al. discloses a control circuit configured to reduce a speed at which an object is being moved as the object nears a desired position thereof (column 7, lines 46-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control circuit Bigler et al. to be configured as Miyashita et al. suggests in order attain the desired position with minimized hunting.

Regarding claim 26, Bigler et al. discloses the claimed invention except for the control circuit being configured to store a present position of the telescope, receive a

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desired new position of the telescope, calculate a difference between the present position of the telescope and the desired new position of the telescope, and cause the telescope to move by approximately the calculated difference. Miyashita et al. discloses a control circuit that is configured to store a present position of an object, receive a desired new position of the object, calculate a difference between the present position and the desired new position, and cause the object to move by approximately the calculated difference (column 7, lines 45-49 and column 13, lines 37-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the control circuit of Bigler et al. be configured as Miyashita et al. suggests in order to easily put a desired viewing object in the field of view of the telescope.

Claims 27-29, 32, 34-36, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bridges et al.

Regarding claims 27-29, 32, 34-36, and 39, Byers discloses a telescope system comprising a telescope (see Figure 1); a tripod supporting the telescope to the tripod (18, Figure 1); a mount attaching the telescope to the tripod (12, 14, Figure 1); and at least one controller/motor assembly for moving the telescope with respect to the tripod (see Figure 2). Byers does not disclose the controller/motor assembly comprising an electric motor; a control circuit coupled to drive the electric motor; a light source; a plurality of light sensors receiving light from the light source; and an encoder wheel alternately permitting light to travel from the light source to the light sensors and preventing light from traveling from the light source to the light sensors, movement of the encoder wheel being representative of movement of the drive motor, wherein the

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light sensors are coupled to provide a signal to the control circuit which is representative of movement of the electric motor to facilitate servo control of the electric motor, wherein the light source comprises a light emitting diode, wherein the plurality of light sensors comprises two light sensors, and wherein the encoder wheel comprises a plurality of spokes extending radially so as to alternately permit light to travel from the light source to the light sensors and prevent light from traveling from the light source to the light sensors. Bridges discloses a controller/motor assembly comprising an electric motor (56, Figure 2); a control circuit coupled to drive the electric motor (58, Figure 2); a light source (78, Figure 2); a plurality of light sensors receiving light from the light source (72, Figure 2); and an encoder wheel alternately permitting light to travel from the light source to the light sensors and preventing light from traveling from the light source to the light sensors, movement of the encoder wheel being representative of movement of the drive motor (50, Figure 2), wherein the light sensors are coupled to provide a signal to the control circuit which is representative of movement of the electric motor to facilitate servo control of the electric motor (see Figure 2), wherein the light source comprises a light emitting diode (column 4, line 4), wherein the plurality of light sensors comprise two light sensors (72, Figure 4), and wherein the encoder wheel comprises a plurality of spokes extending radially so as to alternately permit light to travel from the light source to the light sensors and prevent light from traveling from the light source to the light sensors (62, Figure 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the telescope system of Byers comprise the controller/motor assembly of Bridges et al. in order to be able to accurately

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control the speed at which the telescope is moving and make viewing and/or photographing celestial objects easier.

Claims 30 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bridges et al. as applied to claims 27-29, 32, 34-36, and 39 above, and further in view of Kibrick et al.

Regarding claims 30 and 37, Byers in view of Bridges et al. discloses the claimed invention as described above except for the plurality of light sensors comprising two light sensors configured to operate in quadrature. Kibrick et al. discloses a plurality of light sensors comprising two light sensors configured to operate in quadrature (column 3, lines 65-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the plurality of light sensors of Byers in view of Bridges et al. comprise two light sensors configured to operate in quadrature as Kibrick et al. suggests in order to obtain a system with automatic detection of errors (column 3, lines 37-38).

Claims 31, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bridges et al. as applied to claims 27-29, 32, 34-36, and 39 above, and further in view of Official Notice.

Regarding claims 31 and 38, Byers in view of Bridges et al. discloses the claimed invention as described above except for the plurality of light sensors comprising photodiodes. Official Notice is taken that the use of light sensors comprising photodiodes is well known in the art. It would have been obvious to one of ordinary skill

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in the art at the time the invention was made to have the light sensors of Byers in view of Bridges et al. comprise photodiodes in order to cut production costs.

Claims 33 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bridges et al. as applied to claims 27-29, 32, 34-36, and 39 above, and further in view of Bigler et al.

Regarding claims 33 and 40, Byers in view of Bridges et al. discloses the claimed invention except for the electric motor comprising a DC motor. Bigler et al. discloses that DC motors are well known in the art (column 2, lines 10-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the electric motor of Byers in view of Bridges et al. comprise a DC motor as Bigler et al. suggests in order to allow the motor to run on battery power.

Claims 41, 43, 44, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bridges et al. and Harris et al. (4,074,128).

Regarding claims 41, 43, 44, and 46, Byers discloses a telescope system comprising a telescope (see Figure 1); a tripod supporting the telescope to the tripod (18, Figure 1); a mount attaching the telescope to the tripod (12, 14, Figure 1); and at least one controller/motor assembly for moving the telescope with respect to the tripod (see Figure 2). Byers does not disclose the controller/motor assembly comprising an electric motor; a control circuit coupled to drive the electric motor; a light source; a plurality of light sensors receiving light from the light source; an encoder wheel alternately permitting light to travel from the light source to the light sensors and preventing light from traveling from the light source to the light sensors, movement of

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the encoder wheel being representative of movement of the drive motor; and a calibration circuit coupled to the control circuit and to the light source to set a brightness of the light source to a desired level, wherein the light sensors are coupled to provide a signal to the control circuit which is representative of movement of the electric motor to facilitate servo control of the electric motor and wherein the control circuit is configured to determine a brightness of the light source. Bridges discloses a controller/motor assembly comprising an electric motor (56, Figure 2); a control circuit coupled to drive the electric motor (58, Figure 2); a light source (78, Figure 2); a plurality of light sensors receiving light from the light source (72, Figure 2); and an encoder wheel alternately permitting light to travel from the light source to the light sensors and preventing light from traveling from the light source to the light sensors, movement of the encoder wheel being representative of movement of the drive motor (50, Figure 2), wherein the light sensors are coupled to provide a signal to the control circuit which is representative of movement of the electric motor to facilitate servo control of the electric motor (see Figure 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the telescope system of Byers comprise the controller/motor assembly of Bridges et al. in order to be able to accurately control the speed at which the telescope is moving and make viewing and/or photographing celestial objects easier. Harris et al. discloses a calibration circuit coupled to a control circuit and to a light source to set a brightness of the light source to a desired level (24 (the calibration circuit), 12 (the control circuit), 5, Figure 3 and column 4, lines 62-66), wherein the control circuit is configured to determine a brightness of the light source

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(column 4, lines 62-66). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a calibration circuit coupled to the control circuit and light source of the combination as Harris et al. suggests in order to make the controller/motor assembly more reliable and accurate (column 5, lines 23-24).

Claims 42 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers in view of Bridges et al. and Harris et al. as applied to claims 41, 43, 44, and 46 above, and further in view of Official Notice.

Regarding claims 42 and 45, the combination discloses the claimed invention as described above except for the calibration circuit comprising a plurality of current limiting resistors selectively switchable into series with the light source to vary a current through the light source. Official Notice is taken that calibration circuits comprising a plurality of current limiting resistors selectively switchable into series with a light source to vary a current through the light source are well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the calibration circuit comprise a plurality of current limiting resistors selectively switchable into series with the light source to vary a current through the light source of the combination in order to cut production costs.

Conclusion

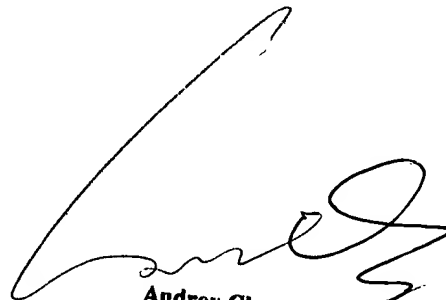
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer E Winstedt whose telephone number is (703) 305-0577. The examiner can normally be reached on 7:30 - 17:00 Mon. - Fri..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Casandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JW
August 12, 2001



Audrey Chang
Primary Examiner
Technology Center 2800